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Two New Species and a New Record of the Genus *Hishimonus* (Hemiptera: Auchenorrhyncha: Cicadellidae) in the Krakatau Isls. and Java, Indonesia

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Abstract. Although no species of the genus *Hishimonus* had been recorded from Java, two new species, *H. bilobatus* from West Java and *H. krakatauensis* from the Krakatau, are herein described. Furthermore, an Australian species, *H. festivus* Knight from Christmas Is., is newly recorded from West Java.

Key words: taxonomy, Hemiptera, Cicadellidae, new species, new distribution record, *Hishimonus*, Indonesia, Krakatau Islands, Java.

The deltocephaline genus *Hishimonus* Ishihara was revised by Knight (1970), and 25 species of it have been recognized in the world. It occurs in tropical to subtropical regions of the Oriental, Ethiopian, Australian and Palaearctic Regions. The species diversity of this genus is especially high in the Oriental Region (Knight, 1973; Kuoh, 1974; Li, 1994; Li & Wang, 2004). In Indonesia, only one species, *H. alstoni* Knight from Sulawesi, has been recognized (Knight, 1970), although the species diversity of many other Indonesian insect genera is high.

Two field surveys of the auchenorrhynchan fauna were performed in Indonesia; Gunung Halimun National Park in west Java and the Krakatau Islands (Yukawa *et al.*, 2001). Gunung Halimun National Park is the largest sub-mountain forest remaining on the Java Island. The Krakatau Islands in the Sunda Strait consist four islands, Rakata, Panjang, Sertung and Anak Krakatau. Flora and fauna of the first three islands were seriously damaged by the 1883 catastrophic eruption of Krakatau Island. In contrast, Anak Krakatau appeared above the sea in the 1930s as a result of submarine eruption. Although many field surveys on flora and fauna were performed after the

eruption, no species of *Hishimonus* have been recorded yet (Dammerman, 1922, 1948). However, we could find one *Hishimonus* species from Rakata.

Hishimonus bilobatus Kamitani sp. nov. (Figs. 1, 4-9)

Body pale brown, with dark brown mottling. Fore wing whitish, with dark brown mottling and a large brown semicircular marking against midlength of commissural margin forming, when at rest, a conspicuous circular marking with that of opposite wing.

Head as wide as pronotum; vertex weakly produced anteriorly; medial length of vertex 1.3 times as long as length next to eyes and 0.2 times as long as width of head; ocelli situated on boundary between vertex and frons, separated from eyes by less than own diameter; coronal suture distinct. Pronotum 2.3 times as wide as long. Hind femur with apical setal formula 2 + 2 + 1. Caudal margin of female 7th abdominal sternum almost straight; central part not incised.

Male genitalia. Pygofer elongate in lateral

view, furnished with approximately 10 long and 8 short macrosetae on posterior 1/3; caudal margin triangularly. Genital plate triangularly with a long finger-like process; outer margin with approximately 10 very long macrosetae. Style robust; apophysis short and linear. Connective Y-shaped; stem shorter than arms. Aedeagus with a pair of lamellate; lamellate broad, rounded apically; lateral margin of lamellate produced into an acute ventrad, extending to near base of aedeagus; gonopore subapical on posterior surface of lamellate.

Body length to tip of folded forewing. ♂, 3.5 – 3.9 mm (mean 3.8 mm); ♀, 4.0 mm.

Type material. Holotype: ♂, [W. Java: Indonesia] Cikaniki (alt. 900m, site 4), Gn. Halimun National Park, 21 VIII 1997, S. Kamitani. Paratypes. 2♂, same data as holotype; 1♂, [W. Java: Indonesia] Cikaniki-Citalahab (alt. 950m), Gn. Halimun National Park, 16 III 2003, at light, S. Kamitani; 1♂ 1♀, [W. Java: Indonesia] Citalahab (alt. 1,000m, site 1), Gn. Halimun National Park, 19 III 2003, at light, S. Kamitani.

Distribution. Indonesia (W. Java).

Remarks. This new mountainous species is very similar to *Hishimonus compactus* Knight from Sarawak

and Malaysia in the shape of male genitalia, but is easily distinguishable by the absence of a pair of aedeagal processes.

***Hishimonus krakatauensis* Kamitani sp. nov.**

(Figs. 2, 10-15)

Body pale white, with blackish mottling. Vertex with two pairs of blackish small spots. Pronotum blackish, with pale anterior margin; scutum whitish, with dark brown angles. Fore wing whitish, with blackish or dark brown mottling and a large blackish semicircular marking against midlength of commissural margin forming, when at rest, a conspicuous circular marking with that of opposite wing.

Head as wide as pronotum; vertex rounded anteriorly; medial length of vertex 1.5 times as long as length next to eyes and 0.3 times as long as width of head; ocelli separated from eyes by less than own diameter; coronal suture indistinct. Pronotum 2.2 times as wide as long. Hind femur with apical setal formula 2 + 2 + 1.

Male genitalia. Pygofer slightly long in lateral view, furnished with approximately 20 macrosetae on posterior



Figs. 1-3. Indonesian *Hishimonus*. 1, *Hishimonus bilobatus* sp. nov.; 2, *H. krakatauensis* sp. nov.; 3, *H. festivus* Knight. Scale bar, 1 mm.

1/3; caudal margin triangularly tapered. Genital plate triangularly with a long finger-like process; outer margin with approximately 10 very long and 10 short macrosetae. Style robust; apophysis short and almost linear. Connective Y-shaped; stem slightly shorter than arms. Aedeagus with two pairs of long processes directing dorsad; inner pair of processes acute apically; outer pair of processes weakly widened apically; gonopore subapical on outer pair of processes.

Body length to tip of folded forewing. ♂, 3.5 mm.

Type material. Holotype: ♂, [W. Java: Indonesia] Rakata Is. (site 13), Krakatau Isls., 11 X 2000, S. Kamitani.

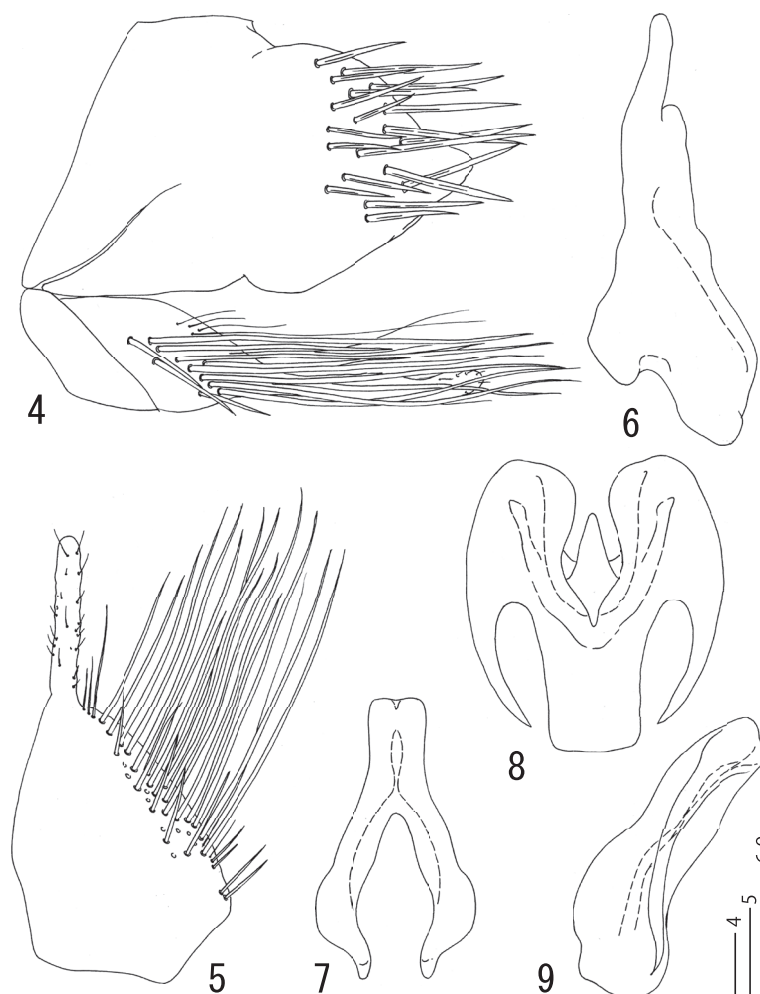
Distribution. Indonesia (Krakatau Isls., W. Java).

Remarks. This new blackish species is very similar to *Hishimonus eminens* Knight from Philippines and *H.*

ambilis Knight from Sarawak in the presence of two pairs of aedeagal processes, but is easily distinguishable from these two species by the shape of the two pairs of aedeagal processes.

This species was collected only from Krakatau Isls., but was not recognized from adjacent areas such as Ujung Kulon and Carita, West Java. However, as the Krakatau are very young islands and have not had enough time for the speciation, this species should be found from the other places. The total cicadellid species number recorded from the islands is ten (Dammerman, 1922, 1948; Kamitani *et al.*, 2005).

Several females of *Hishimonus* were collected from the other two islands of the Krakatau, Anak Krakatau and Panjang. However, these females are slightly different in coloration and body size, and so were not added to



Figs. 4-9. *Hishimonus bilobatus*, ♂ genitalia. 4, pygofer, valve and genital plate in lateral view; 5, genital plate in ventral view; 6 style in dorsal view; 7, connective in dorsal view; 8, aedeagus in posterior view; 9, aedeagus in lateral view. Scale bars, 0.1 mm.

the type series specimens.

***Hishimonus festivus* Knight, 1970**
(Figs. 3, 16-21)

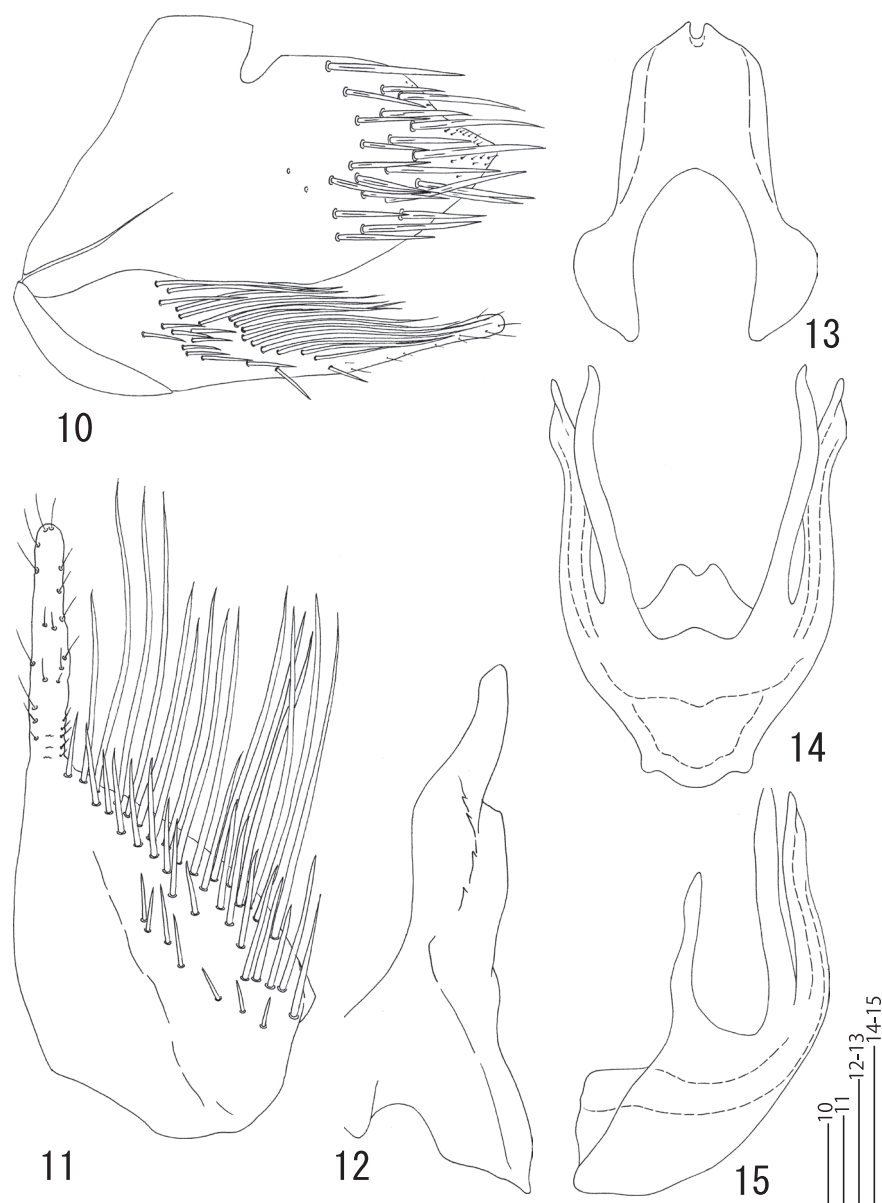
Material examined. [W. Java: Indonesia] 4♂ 2♀, Cibon, Ujung Kulon, 17 X 2000, S. Kamitani.

Distribution. Australia (Christmas Is.), Indonesia (W. Java).

Remarks. Although this species had been endemic to Christmas Island (Fletcher, 2004), it was newly found from West Java.

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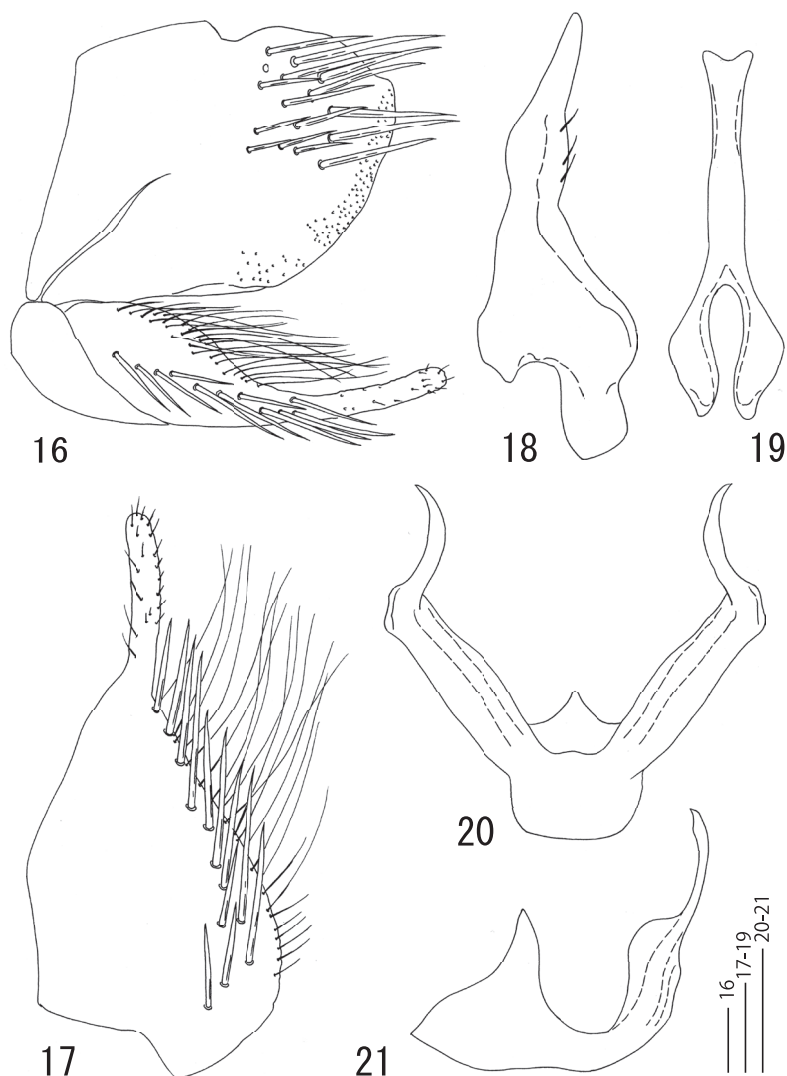
Figs. 10-15. *Hishimonus krakatauensis*, ♂ genitalia. 10, pygofer, valve and genital plate in lateral view; 11, genital plate in ventral view; 12 style in dorsal view; 13, connective in dorsal view; 14, aedeagus in posterior view; 15, aedeagus in lateral view. Scale bars, 0.1 mm.

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References

- Dammerman, K. W., 1922. The fauna of Krakatau, Verlaten Island and Sebesy. *Treubia*, **3**: 61-112.
- Dammerman, K. W., 1948. The fauna of Krakatau 1883-1933. *Verhandl. Koninkl. Ned. Akad. Wetenschap. Afdel Natuuk.*, (2): 1-594.
- Fletcher, M. J., 2004. Identification Key and *Checklists* for the Leafhoppers and Treehoppers of Australia and neighboring areas (Hemiptera: Cicadellidae, Eurymelidae, Membracidae). Key and checklist published at <http://www.agric.nsw.gov.au/Hort/ascu/leafhop/cica0.htm>.
- Kamitani, S., R. Ubaidillah, S. Kahono, S. Herwint & T. Partomihardjo, 2005. Notes on the genus *Balclutha* (Hemiptera: Auchenorrhyncha: Cicadellidae) in Indonesia. *Esakia*, (45): 61-67.
- Knight, W. J., 1970. A revision of the genus *Hishimonus* Ishihara (Hom., Cicadellidae). *Ann. entom. Fenn.*, **36**: 125-139.
- Knight, W. J., 1973. A new species of *Hishimonus* Ishihara (Hom., Cicadellidae) attacking *Terminalia* spp. in India, with comments on the relationship of the genus to *Cestius*



Figs. 16-21. *Hishimonus festivus*, ♂ genitalia. 16, pygofer, valve and genital plate in lateral view; 17, genital plate in ventral view; 18 style in dorsal view; 19, connective in dorsal view; 20, aedeagus in posterior view; 21, aedeagus in lateral view. Scale bars, 0.1 mm.

- Distant. *Ann. entom. Fenn.*, **39**: 153-156.
- Kuoh, C., 1976. Some new species of Chinese *Hishimonus* and *Hishimonoides*. *Acta entom. Sin.*, **19**: 431-437.
- Li, Z., 1988. Two new species of *Hishimonus* from Guizhou, China (Homoptera: Cicadellidae). *Entomotaxonomia*, **10**: 51-54.
- Li, Z-Z. & L-M. Wang, 2004. Notes on Chinese species of *Hishimonus* with descriptions of two new species (Homoptera, Cicadellidae, Euscelinae). *Acta Zootax. Sin.*, **29**: 486-490.
- Yukawa, J., K. Ogata, O. Yata, O. Tadauchi, S. Kamitani, S. Helwint, T. Partomihardjo, N. P. Oka & D. Yamaguchi, 2001. An interim report of the 2000 survey of entomofauna on Lombok Island, Bali Island, the Krakatau Islands, and in Ujung Kulon, Indonesia. *Esakia*, (41): 1-10.

ERRATA

In “Taxonomic study on four Southeast Asian species of the genus *Xestocephalus* (Auchenorrhyncha, Cicadellidae)” by S. Kamitani, R. Ubaidillah, S. Kahono, and I. A. Ghani, *ESAKIA*, (49): 95-101, the distribution of *X. takahashii*, “Indonesia (Java)”, is “W. Malaysia”, and . the distribution of *X. fuliginosus*, “Indonesia (Java)”, is “W. Malaysia”